In The Claims:

Please cancel claims 1-17, 21-41, 45-62, 66-72, 76-81, 85-90 and 94-96 without prejudice, and amend claims 18, 42, 63, 73, 82 and 91, so that the claims hereafter read as follows:

1. - 17. (Canceled)

18. (Currently Amended) A system ~~according to claim 17~~ for amplifying optical signals comprising:

an optical fiber for carrying the optical signals;

a high power broadband light source comprising an optical component configured to generate amplified spontaneous emission (ASE) having a relatively short coherence length; and

a connector for introducing the high power broadband light source into the optical fiber as a Raman pump so as to induce Raman amplification of the optical signals within the fiber;

wherein the high power broadband light source is spectrally filtered so as to provide a desired spectral distribution for the Raman pump;

wherein the spectrally filtered high power broadband light source comprises a spectrally filtered amplified spontaneous emission (ASE) generated from an optical component;

wherein the optical component comprises a plurality of ASE sources having their outputs combined together so as to form a composite ASE source;

wherein the optical component comprises an optical waveguide comprising a wavelength seed section for generating ASE and a power booster section for amplifying the ASE;

<u>and</u> wherein the wavelength seed section comprises a plurality of separate wavelength seed subsections arranged in a serial configuration, and further wherein each of the wavelength seed subsections is arranged to produce ASE in a particular wavelength range.

19. (Original) A system according to claim 18 wherein the wavelength seed section is disposed between the power booster section and a high reflectance mirror, and further wherein the high reflectance mirror is configured to provide the desired ASE spectrum at the input to the power booster section.

20. (Original) A system according to claim 19 wherein the high reflectance mirror comprises at least one element selected from the group consisting of a thin film coating and a distributed Bragg reflector.

21. - 41. (Canceled)

42. (Currently Amended) A method ~~according to claim 41~~ <u>for amplifying optical signals comprising:</u>

<u>introducing a high power broadband light source into an optical fiber carrying the optical signals so that the high power broadband light source acts as a Raman pump so as to induce Raman amplification of the optical signals within the fiber,</u>

<u>wherein the high power broadband light source comprises an optical component configured to generate amplified spontaneous emission (ASE) having a relatively short coherence length;</u>

wherein the high power broadband light source is spectrally filtered so as to provide a desired spectral distribution for the Raman pump;

wherein the spectral filtering is achieved using a Bragg grating;

wherein the optical component comprises an optical waveguide comprising a wavelength seed section for generating ASE and a power booster section for amplifying the ASE;

and wherein the wavelength seed section comprises a plurality of separate wavelength seed subsections arranged in a serial configuration, and further wherein each of the wavelength seed subsections is arranged to produce ASE in a particular wavelength range.

43. (Original) A method according to claim 42 wherein the wavelength seed section is disposed between the power booster section and a high reflectance mirror, and further wherein the high reflectance mirror is configured to provide the desired ASE spectrum at the input to the power booster section.

44. (Original) A method according to claim 43 wherein the high reflectance mirror comprises at least one element selected from the group consisting of a thin film coating and a distributed Bragg reflector.

45. - 62. (Canceled)

63. (Currently Amended) A spectrally filtered high power broadband light source ~~according to claim 62~~ comprising an optical component configured to generate a spectrally filtered

amplified spontaneous emission (ASE) having a relatively short coherence length;

wherein the optical component comprises a plurality of ASE sources having their outputs combined together so as to form a composite ASE source;

wherein the optical component comprises an optical waveguide comprising a wavelength seed section for generating ASE and a power booster section for amplifying the ASE;

and wherein the wavelength seed section comprises a plurality of separate wavelength seed subsections arranged in a serial configuration, and further wherein each of the wavelength seed subsections is arranged to produce ASE in a particular wavelength range.

64. (Original) A spectrally filtered high power broadband light source according to claim 63 wherein the wavelength seed section is disposed between the power booster section and a high reflectance mirror, and further wherein the high reflectance mirror is configured to provide the desired ASE spectrum at the input to the power booster section.

65. (Original) A spectrally filtered high power broadband light source according to claim 64 wherein the high reflectance mirror comprises at least one element selected from the group consisting of a thin film coating and a distributed Bragg reflector.

66. - 72. (Canceled)

73. (Currently Amended) A system ~~according to claim 72~~ for amplifying optical signals comprising:

an optical fiber for carrying the optical signals;

a high power broadband light source; and

a connector for introducing the high power broadband light source into the optical fiber as a Raman pump so as to induce Raman amplification of the optical signals within the fiber,

wherein the high power broadband light source is spectrally filtered so as to provide a desired spectral distribution for the Raman pump,

wherein the spectrally filtered high power broadband light source comprises a spectrally filtered amplified spontaneous emission (ASE) generated from an optical component,

wherein the optical component comprises a plurality of ASE sources having their outputs combined together so as to form a composite ASE source,

and wherein the optical component comprises an optical waveguide comprising a wavelength seed section for generating ASE and a power booster section for amplifying the ASE;

and wherein the wavelength seed section comprises a plurality of separate wavelength seed subsections arranged in a serial configuration, and further wherein each of the wavelength seed subsections is arranged to produce ASE in a particular wavelength range.

74. (Previously Presented) A system according to claim 73 wherein the wavelength seed section is disposed between the power booster section and a high reflectance mirror, and further wherein the high reflectance mirror is configured to provide the desired ASE spectrum at the input to the power booster section.

75. (Previously Presented) A system according to claim 74 wherein the high reflectance mirror comprises at least one element selected from the group consisting of a thin film coating and a distributed Bragg reflector.

76. - 81. (Canceled)

82. (Currently Amended) A method ~~according to claim 81~~ for amplifying optical signals comprising:

introducing a high power broadband light source into an optical fiber carrying the optical signals so that the high power broadband light source acts as a Raman pump so as to induce Raman amplification of the optical signals within the fiber,

wherein the high power broadband light source is spectrally filtered so as to provide a desired spectral distribution for the Raman pump,

wherein the spectral filtering is achieved using a Bragg grating,

and wherein the optical component comprises an optical waveguide comprising a wavelength seed section for generating ASE and a power booster section for amplifying the ASE;

and wherein the wavelength seed section comprises a plurality of separate wavelength seed subsections arranged in a serial configuration, and further wherein each of the wavelength seed subsections is arranged to produce ASE in a particular wavelength range.

83. (Previously Presented) A method according to claim 82 wherein the wavelength seed section is disposed between the power

booster section and a high reflectance mirror, and further wherein the high reflectance mirror is configured to provide the desired ASE spectrum at the input to the power booster section.

84. (Previously Presented) A method according to claim 83 wherein the high reflectance mirror comprises at least one element selected from the group consisting of a thin film coating and a distributed Bragg reflector.

85. - 90. (Canceled)

91. (Currently Amended) A spectrally filtered high power broadband light source ~~according to claim 90~~ comprising a spectrally filtered amplified spontaneous emission (ASE) generated from an optical component,

wherein the optical component comprises a plurality of ASE sources having their outputs combined together so as to form a composite ASE source,

and wherein the optical component comprises an optical waveguide comprising a wavelength seed section for generating ASE and a power booster section for amplifying the ASE;

and wherein the wavelength seed section comprises a plurality of separate wavelength seed subsections arranged in a serial configuration, and further wherein each of the wavelength seed subsections is arranged to produce ASE in a particular wavelength range.

92. (Previously Presented) A spectrally filtered high power broadband light source according to claim 91 wherein the wavelength seed section is disposed between the power booster

section and a high reflectance mirror, and further wherein the high reflectance mirror is configured to provide the desired ASE spectrum at the input to the power booster section.

93. (Previously Presented) A spectrally filtered high power broadband light source according to claim 92 wherein the high reflectance mirror comprises at least one element selected from the group consisting of a thin film coating and a distributed Bragg reflector.

94. - 96. (Canceled)